



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,535	12/12/2001	Jeffrey John Anuszczyk	111345.122	1826
7590	07/24/2007			
Joseph F. Haag			EXAMINER	
Hale and Dorr LLP			SHAW, PELING ANDY	
60 State Street				
Boston, MA 02106			ART UNIT	PAPER NUMBER
			2144	
			MAIL DATE	DELIVERY MODE
			07/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/021,535	ANUSZCZYK ET AL.	
	Examiner	Art Unit	
	Peling A. Shaw	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 May 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-30 and 32-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2-30 and 32-40 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s), including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114; and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/08/2007 has been entered. Claims 2-10, 12-20, 23-25, 30 and 32-40 are amended. Claims 2-30 and 32-40 are currently pending.
2. Amendment received on 12/04/2006 was entered into record. No claim was amended.
3. Applicant's submission filed on 03/15/2006 was entered. Claims 2, 4-5, 11-12, 14-15, 30 and 40 were amended. Claims 1, 31 and 41-44 were cancelled.
4. Amendment received on 06/29/2005 was entered. Claims 1, 5, 14-15, 30, 40-41 and 43-44 were amended. Claims 1-44 are still pending.

Priority

5. This application has no priority claim made. The filing date is 12/12/2001.

Claim Rejections - 35 USC § 112, second paragraph

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-10 and 21-22 are rejected under 35 U.S.C. 112, second paragraph as following:

- a. Claims 6-10 are amended with changes of "the indicated occurrence" from "the occurrence". There is insufficient antecedent basis for this limitation changes in the

claims. For the purpose of applying art, claims 6-10 are read as with “the occurrence” instead of “the indicated occurrence”.

b. Claims 21-22 recite the limitation of “the low-level items”. There is insufficient antecedent basis for this limitation changes in the claims. For the purpose of applying art, claims 21-22 are read as with the limitation of “the attributes” instead of “the low-level items”.

Clarification and/or correction are required.

Claim Rejections - 35 USC § 112, first paragraph

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

a. Claims 16 and 23-24 recites the limitation of “match substantially all of the ...” that is not clearly specified in applicant’s original specification. It would cause undue experimentation to one of ordinary skill in the art to make Applicant’s invention.

Claims 16, 23-24 and the dependent claims 17-21 are rejected under 35 U.S.C. § 112, first paragraph. For the purpose of applying art, claims 16 and 23-24 are read as with the limitation of “does not match at least one of the ...” instead of “match substantially all of the ...”.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 30 and 32-40 are rejected under 35 U.S.C. 102(a) as being anticipated by Keller et al. (Dynamic Dependencies in Application Service Management), hereinafter referred as Keller.

a. Regarding claim 30, Keller disclosed a method for determining dependencies between components in an information technology (IT) system, comprising: discovering at least two components in the IT system by receiving real-time messages (page 5, right column, last paragraph: dependencies identified at application installation time and discovered at runtime, functional dependencies between application and service categories, the structural part captures dynamic information related to concrete service implementation; page 6, right column, 1st and 2nd paragraphs: MLMs, event reception and forwarding, resource discovery functions, application operating on top of a network management platform, e.g. DNS, web hosting and firewall); monitoring the usage of resources by the discovered components in the IT system; if a resource is used by one or more of the discovered components, generating a message indicating the use of that resource (page 4, left column, 1st paragraph: compute the runtime dependencies of the Name Service, Detailed configuration parameters of a WWW server and allow the forecast the

runtime behavior of a web server; page 5, right column, last paragraph: dependencies identified at application installation time and discovered at runtime; page 6, right column, 1st paragraph: MLMs, event reception and forwarding, resource discovery functions, collected data describes, for each end-to-end application services, the dependencies it has on lower level application and network layer services and components); accumulating each message indicating the use of one of the resources by one of the discovered components (page 5, right column, last paragraph-page 6, left column, 1st paragraph: event reception and forwarding, dependencies identified at application install time and those discovered at runtime, structural part captures dynamic information; page 6, right column, 3rd paragraph-page 7, left column, 1st paragraph: application service agent); and if the accumulated messages indicate that at least two of the discovered components use the same resource, then indicating that a first dependency between these components has been detected (page 5, right column, 4th column; page 6, right column, 3rd paragraph-page 7, left column, 1st paragraph: application service agent), and determining a direction of the first dependency between the indicated components (page 2, left column, 2nd paragraph, item 1).

- b. Regarding claim 32, Keller disclosed the method of claim 30, wherein the indicated component is selected from the group consisting of an application, a network connection endpoint, and a server (Fig. 1; page 2, left column, 1st paragraph and 2nd paragraph, item 1; page 6, right column, 1st paragraph).

- c. Regarding claim 33, Keller disclosed the method of claim 32, wherein at least one message indicates a network outbound connection by one of the two discovered components (Fig. 1; page 2, left column, 1st paragraph and 2nd paragraph, item 1; page 6, right column, 1st paragraph).
- d. Regarding claim 34, Keller disclosed the method of claim 32, wherein at least one message indicates a network listener by one of the two discovered components (Fig. 1; page 2, left column, 1st paragraph and 2nd paragraph, item 1; page 6, right column, 1st paragraph).
- e. Regarding claim 35, Keller disclosed the method of claim 32, wherein at least one message indicates a use of a file by one of the two discovered components (Fig. 1; page 2, left column, 1st paragraph and 2nd paragraph, item 1; page 3, right column: Component Type and Component Activity).
- f. Regarding claim 36, Keller disclosed the method of claim 30, further comprising tracking changes to the first dependency between the two discovered components (page 6, right column, 1st paragraph-page 7, left column, 6th paragraph: MLMs, Application Service Agent, Resource Broker and Resource Directory).
- g. Regarding claim 37, Keller disclosed the method of claim 30, wherein the first dependency is a containment dependency (Fig. 1; page 2, left column, 1st paragraph and 2nd paragraph, item 1; page 3, right column: Component Type and Component Activity: file and file system).

- h. Regarding claim 38, Keller disclosed the method of claim 30, wherein the first dependency is a network dependency (Fig. 1; page 2, left column, 1st paragraph and 2nd paragraph, item 1; page 6, right column, 1st paragraph).
- i. Regarding claim 39, Keller disclosed the method of claim 30, wherein the first dependency is a shared usage dependency (Fig. 1, IP Provider and Network Provider; page 2, left column, 1st paragraph and 2nd paragraph, item 1).
- j. Claim 40 is of the same scope as claim 30. It is rejected for the same reasons as for claim 30.

Keller disclosed all limitations of claims 30 and 32-40. Claims 30 and 32-40 are rejected under 35 U.S.C. 102(a).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kar et al., (An Architecture for Managing Application Services over Global Networks), in view of Kathrow, et al. (US 6393438 B1), hereinafter referred as Kathrow.

- a. Kar shows (claim 5) a method for collecting information on components in an information technology (IT) system, comprising: discovering the existence of at least one of the components in the IT system (page 2, right column, 2nd paragraph- page 3,

left column, 1st paragraph: MLM, resource discovery functions); determining at least one dependency between two or more of the components (page 3, right column, 3rd-5th paragraphs: Dependency Analysis for Service Management); and tracking changes to at least one of the components and the dependency between two or more of the components (page 2, right column, 2nd paragraph- page 3, left column, 1st paragraph: MLM; page 5, right column, 2nd paragraph-page 6, left column, 4th paragraph: Application Service Agents, Resource Broker and Resource Directory).

Kar does not show explicitly (claim 5) discovering the existence of at least one of the components by receiving one or more real-time messages corresponding to one or more occurrences in the IT system, wherein the real-time messages include event information relating to one or more components, including a first component; comparing at least the first component to one or more fingerprints, wherein each fingerprint corresponds to a known component and includes one or more attributes that are a subset of attributes in a model of the known component; and based on said comparing, matching one or more components with one or more fingerprints.

However, Kar does show using resource identifier (page 6, right column, item 1) and software definition file format with many attributes (page 7, left column, 2nd paragraph).

- b. Kathrow shows (claim 5) discovering the existence of at least one of the components by receiving one or more real-time messages corresponding to one or more occurrences in the IT system, wherein the real-time messages include event information relating to one or more components, including a first component (Fig. 2,

item 252; column 4, line 7-18); comparing at least the first component to one or more fingerprints, wherein each fingerprint corresponds to a known component and includes one or more attributes that are a subset of attributes in a model of the known component (Fig. 4, item 432; column 11, line 49-59); and based on said comparing, matching one or more components with one or more fingerprints (Fig. 4, items 432, 434 and 440; column 11, line 59-62) in an analogous art for the purpose of identifying the existence of differences between two files based upon the fingerprints.

- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kar's Mid-level manger to include Kathrow's identifying the difference of two files based upon the fingerprint, including device descriptors.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to incorporate the file/device record updates base upon the hash technologies, i.e. fingerprint/digital signature, to improve the security and performance of configuration management per Kathrow's teaching in the management of applications per Kar (page 2, left column, 2nd paragraph- page 3, left column, 1st paragraph: using mid level manager to monitor the health and status of a application service) and Kathrow (column 1, lines 36-52: using window registry to manage computer programs running under window operating system) 's teachings.
- e. Regarding claim 2, Kar shows further comprising generating a visual map of the IT system, the visual map including a depiction of at least one of the discovered components and the at least one dependency between two or more of the discovered

components (Fig. 4; page 4, left column, 2nd paragraph: Dependency Graph; page 5, left column, last paragraph, and right column, last paragraph-page 6, left column, 1st paragraph).

- f. Regarding claim 3, Kar shows wherein the visual map includes tracked changes to at least one of the discovered components (page 5, right column, last paragraph-page 6, left column, 1st paragraph).
- g. Regarding claim 4, Kar shows wherein at least one of the discovered components is an application (page 5, right column, 2nd paragraph-page 6, left column, 1st paragraph: Application Service Agents).
- h. Regarding claim 6, Kathrow shows wherein the indicated occurrence is selected from one or more of a file creation, a file deletion, and a file modification (column 4, line 60-65).
- i. Regarding claim 7, Kathrow shows wherein the indicated occurrence is selected from one or more of a registry key creation, a registry key deletion, and a registry key modification (column 4, line 60-65).
- j. Regarding claim 8, Kathrow shows wherein the indicated occurrence is information regarding detection of a particular component in the IT system (column 4, line 60-65).
- k. Regarding claim 9, Kathrow shows further comprising indicating that a particular component has been damaged if the indicated occurrence is a deletion and at least one of the attributes of the fingerprint are no longer matched by the components in the IT

system (Fig. 4, item 436; column 4, line 60-65; column 11, line 62-64; column 14, line 8-15).

- l. Regarding claim 10, Kathrow shows further comprising indicating that a particular component has been uninstalled if the occurrence is a deletion and all of the attributes of a minimum set of the fingerprint are no longer matched by the components in the IT system (Fig. 4, item 436; column 4, line 60-65; column 11, line 62-64; column 14, line 8-15).
- m. Regarding claim 11, Kar shows wherein the at least one dependency is selected from the group consisting of shared library usage, network usage, and containment dependencies (page 3, right column, 4th-last paragraphs: DNS, NFS, IP service, PVC, network components, servers and applications).
- n. Regarding claim 12, Kar shows further comprising: generating a component discovered message upon the discovery of one of the components; retrieving a list of elements to track the discovered component; and using the list of elements to track changes to the discovered component (page 2, right column, 2nd paragraph, 1st-3rd bullets).
- o. Claims 14-15 are of the same scope as claim 5. These are rejected for the same reasons as for claim 5.

Together Kar and Kathrow disclosed all limitations of claims 2-12 and 14-15. Claims 2-12 and 14-15 are rejected under 35 U.S.C. 103(a).

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kar et al., (An Architecture for Managing Application Services over Global Networks), hereinafter referred as Kar, in view of Kathrow, et al. (US 6393438 B1), hereinafter referred as Kathrow.

- a. Kar shows a computer-readable medium storing program instructions that are computer executable to implement an agent for collecting information on components in an information technology (IT) system, the agent residing on a computer in the IT system, wherein the program instructions are executable to implement: an observer module to detect real-time event information about elements of the computer (page 2, right column, 2nd paragraph, 2nd bullet: MLM); and an analysis module to process the real-time event information, the analysis module including: (A) component discovery rules to process event information and using an accumulator to discover one or more components, wherein each fingerprint corresponds to a known component and includes one or more attributes that are a subset of attributes in a model of the known component (page 2, right column, 2nd paragraph, 2nd bullet: MLM; page 5, right column, 2nd paragraph-page 6, left column, 4th paragraph: Application Service Agents, Resource Broker and Resource Directory), and (B) dependency discovery rules to detect relationships between discovered components of the IT system (page 5, left column, last paragraph). Kar does not show matching event information with elements of one or more fingerprints of known components. However, Kar does show using resource identifier (page 6, right column, item 1) and software definition file format with many attributes (page 7, left column, 2nd paragraph).

- b. Kathrow shows matching event information with elements of one or more fingerprints of known components (Fig. 4, items 432, 434 and 440; column 11, line 49-62) in an analogous art for the purpose of identifying the existence of differences between two files based upon the fingerprints.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kar's Mid-level manger to include Kathrow's identifying the difference of two files based upon the fingerprint, including device descriptors.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to incorporate the file/device record updates base upon the hash technologies, i.e. fingerprint/digital signature, to improve the security and performance of configuration management per Kathrow's teaching in the management of applications per Kar (page 2, left column, 2nd paragraph- page 3, left column, 1st paragraph: using mid level manager to monitor the health and status of a application service) and Kathrow (column 1, lines 36-52: using window registry to manage computer programs running under window operating system) 's teachings.

Together Kar and Kathrow disclosed all limitations of claim 13. Claim 13 is rejected under 35 U.S.C. 103(a).

11. Claims 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kathrow, et al. (US 6393438 B1), hereinafter referred as Kathrow, in view of Kar et al., (An Architecture for Managing Application Services over Global Networks), hereinafter referred as Kar.

- a. Regarding claims 16, 23 and 24, Kathrow shows a method, a computer-readable medium storing instructions that direct a microprocessor, and an apparatus with memory containing a program and a processor executing the program for discovering components in an information technology (IT) system, comprising: receiving event information regarding an occurrence in the IT system, the occurrence relating to a first component (Fig. 2, item 252; column 4, line 7-18); comparing at least the first component to at least one fingerprint, wherein the fingerprint includes one or more attributes that are a subset of attributes in a model of a known component (Fig. 4, items 432, 434 and 440; column 11, line 49-62). Kathrow also shows (column 4, 1st paragraph; column 11, line 5-64) a single file could be divided into multiple files and multiple fingerprints are used and (column 10, lines 39-43) fingerprint compare can further investigate to identify the specific blocks that are different between two files. Kathrow does not show explicitly if the any of the compared components match substantially all of the attributes of the fingerprint, using A subfingerprint of a refinement of the known component to discover the existence of A second component that corresponds to the refinement of the known component.
- b. Kar shows (page 5, left column, last paragraph, and right column, last paragraph-page 6, left column, 1st paragraph) as a result of static analysis, the resource dependency graph could be constructed; (page 6, right column, item 1) using resource identifier; and (page 7, left column, 2nd paragraph) software definition file format with many attributes in an analogous art for the purpose of determining the resource dependency in the application service management.

- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kathrow's file comparison based upon the fingerprint method to include a further depending file (refined component) comparison through an application control (Fig. 2, item 252; column 4, line 16-18) via the result of fingerprint comparison (Fig. 2, item 254; Fig. 4, items 432, 434 and 440; column 11, line 59-64) to further ensure all the dependent files as suggested (column 4, 1st paragraph; column 11, line 49-64) will be compared based upon fingerprints.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to fingerprint check not only one file out of multiple files that were from the division out of a single file, but multiple files to the integrity of a file (all divided files or associated resources) in the management of applications per Kar (page 2, left column, 2nd paragraph- page 3, left column, 1st paragraph: using mid level manager to monitor the health and status of a application service) and Kathrow (column 1, lines 36-52: using window registry to manage computer programs running under window operating system) 's teachings.
- e. Regarding claim 17, Kathrow shows the method of claim 16, wherein the refinement of the known component is a version of the known component (column 10, line 16-20).
- f. Regarding claim 18, Kathrow shows the method of claim 16, wherein the refinement of the known component is an optional piece of the known component (column 12, line 6-21).

- g. Regarding claim 19, Kathrow shows the method of claim 16, further comprising generating a command message to collect further information if all of the attributes of the fingerprint are matched (column 11, line 49-62).
- h. Regarding claim 20, Kathrow shows the method of claim 19, further comprising receiving event information in response to the command message, wherein the event information is used with the subfingerprint of the refinement of the known component to discover the existence of the second component (Fig. 2, item 252 and 254; column 4, line 7-18).
- i. Regarding claim 21, Kathrow shows the method of claim 16, further comprising detecting low-level items in the IT systems and generating event information regarding the low-level items (Kar, page 5, left column, last paragraph, and right column, last paragraph-page 6, left column, 1st paragraph; Kathrow, Fig. 2, item 252; column 4, line 7-18).
- j. Regarding claim 22, Kathrow shows the method of claim 21, wherein the low-level items are selected from one or more of files, registry settings, and database schemas (column 3, line 59-62).

Together Kathrow and Kar disclosed all limitations of claims 16-24. Claims 16-24 are rejected under 35 U.S.C. 103(a).

12. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kathrow, et al. (US 6393438 B1), hereinafter referred as Kathrow, in view of Kar et al., (An Architecture for Managing Application Services over Global Networks), hereinafter referred as Kar.

- a. Regarding claims 25 and 27, Kathrow shows a method for managing components in an information technology (IT) system, comprising: receiving a first event message for a first occurrence in the IT system, the first occurrence relating to a first component (Fig. 2, item 252; column 4, line 7-18); if the first component matches at least one attributes of a fingerprint of a model of a known component, adding the first component to an accumulator, wherein the fingerprint includes one or more attributes that are a subset of attributes in a model of a known component (Fig. 4: dash line; column 5, line 45-53: REPEAT; column 11, line 14-21: REPEAT). Kathrow also shows (column 4, 1st paragraph; column 11, line 62-64) a single file could be divided into multiple files; and multiple fingerprints are used and (column 10, lines 39-43) fingerprint compare can further investigate to identify the specific blocks that are different between two files. Kathrow does not show explicitly if all of the attributes of the fingerprint have been matched by the first component and other components, generating a command to detect further information; receiving, in response to the command, a second event message providing further details about one of the components; and using a subfingerprint of a known refined component and the further details about one of the components to discover a refined component; and further comprising: generating a component detected message upon the discovery of the refined component; retrieving a list of elements to track for the refined component; and using the list of elements to track changes to the refined component.
- b. Kar shows (page 5, left column, last paragraph, and right column, last paragraph-page 6, left column, 1st paragraph) as a result of static analysis, the resource dependency

graph could be constructed; and software definition file format with many attributes (page 7, left column, 2nd paragraph) in an analogous art for the purpose of determining the resource dependency in the application service management.

- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kathrow's file comparison based upon the fingerprint method to include a further depending file (refined components) comparison through an application control (Fig. 2, item 252; column 4, line 16-18) via the result of fingerprint comparison (Fig. 2, item 254; Fig. 4, items 432, 434 and 440; column 11, line 59-64) to ensure all the dependent files as suggested (column 4, 1st paragraph; column 11, line 62-64) will be compared based upon fingerprints; and to store a list of dependent files as per Kar's dependency graph suggested to further ensure all dependent files would be finger print checked.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to fingerprint check not only one file out of multiple files that were from the division out of a single file, but all multiple files to ensure the integrity of a file (all divided files or associated resources) in the management of applications per Kar (page 2, left column, 2nd paragraph- page 3, left column, 1st paragraph: using mid level manager to monitor the health and status of a application service) and Kathrow (column 1, lines 36-52: using window registry to manage computer programs running under window operating system) 's teachings.

e. Regarding claim 26, Kathrow shows the method of claim 25, wherein the first occurrence is one of a file creation, file deletion, file modification, registry key creation, registry key modification, and registry key deletion (column 4, line 60-65).

Together Kathrow and Kar disclosed all limitations of claims 25-27. Claims 25-27 are rejected under 35 U.S.C. 103(a).

13. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kathrow, et al. (US 6393438 B1), hereinafter referred as Kathrow, in view of Kar et al., (An Architecture for Managing Application Services over Global Networks), hereinafter referred as Kar.

a. Regarding claim 28, Kathrow shows a method for discovery of a refined component in an information technology (IT) system, comprising: using a fingerprint of a model of a known component to discover an existing component in the IT system by matching passive elements in the fingerprint with event information of the IT system (Fig. 4, item 432 and 404; column 11, line 49-62). Kathrow also shows (column 4, 1st paragraph; column 11, line 62-64) a single file could be divided into multiple files and signal (event message) input/output generation via application (Fig. 2, item 252 and 254; column 4, line 7-18). Kathrow does not show generating and transmitting a command message defined by active elements of the fingerprint to discover the refined component; receiving event information relating to the active elements of the fingerprint of the known component; and using a subfingerprint of the refined component to discover the refined component, the refined component relating to the known component, wherein the subfingerprint of the refined component becomes active upon the discovery of the existing component using the fingerprint.

- b. Kar shows (page 5, left column, last paragraph, and right column, last paragraph-page 6, left column, 1st paragraph) as a result of static analysis, the resource dependency graph could be constructed in an analogous art for the purpose of determining the resource dependency in the application service management.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kathrow's file comparison based upon the fingerprint method to include a further depending file (refined components) comparison through an application control (Fig. 2, item 252 and 254; column 4, line 7-18) via the result of fingerprint comparison (Fig. 2, item 254; Fig. 4, items 432, 434 and 440; column 11, line 59-64) to ensure all the dependent files as suggested (column 4, 1st paragraph; column 11, line 62-64) will be compared based upon fingerprints.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to fingerprint check not only one file out of multiple files that were from the division out of a single file, but all multiple files to ensure the integrity of a file (all divided files or associated resources) in the management of applications per Kar (page 2, left column, 2nd paragraph- page 3, left column, 1st paragraph: using mid level manager to monitor the health and status of a application service) and Kathrow (column 1, lines 36-52: using window registry to manage computer programs running under window operating system) 's teachings.
- e. Regarding claim 29, Kathrow shows the method of claim 28, wherein receiving event information relating to active elements includes receiving an event message (Fig. 2, item 252 and 254; column 4, line 7-18: signal).

Together Kathrow and Kar disclosed all limitations of claims 28-29. Claims 28-29 are rejected under 35 U.S.C. 103(a).

Response to Arguments

14. Applicant's arguments filed on 05/08/2007 have been fully considered, but they are not persuasive.

- a. Applicant argues that Keller does not teach or suggest "... monitoring the usage of resources by the two discovered components in the IT system by receiving real-time messages ...". Examiner has cited the last paragraph on the right column of Keller's page 5 as "dependencies identified at application installation time and discovered at runtime, functional dependencies between application and service categories, the structural part captures dynamic information related to concrete service implementation", 1st and 2nd paragraphs on the right column of Keller's of page 6 as "MLMs, event reception and forwarding, resource discovery functions, application operating on top of a network management platform, e.g. DNS, web hosting and firewall". Applicant's claim 5 language states the limitation of "... the real-time messages include event information relating to". It is obvious to one skill in the art to learn the two citations from Keller above does indicate applicant's limitation of "... monitoring the usage of resources by the two discovered components in the IT system by receiving real-time messages ...".
- b. Applicant argues that Kathrow says nothing about the use "... comparing at least the first component to one or more fingerprints, wherein each fingerprint corresponds to a known component and includes one or more attributes that are a subset of attributes in a model of the known component ...". Kathrow has shown (column 4, line 7-18) fingerprinting and store the information in the Windows registry file; (column 4, line

19-27) input includes the name of the file stored in file storage; and (column 11, line 59-62) one or more characteristics such as the size of a portion or all of the current version of the Window registry is identified. Similar description with respect to Window registry appears in last paragraph on page 15 to 1st paragraph on page 16 of applicant's original specification. Thus it is believed that Kathrow have the limitation.

- c. Applicant argues that Kathrow does not teach the fingerprint and subfingerprint as per claim 16. As cited in previous item applicant's usage of fingerprint is not different from Kathrow's usage of fingerprint. Kathrow has shown similar function of using subfingerprint, i.e (column 4, 1st paragraph; column 11, line 5-64) a single file could be divided into multiple files and multiple fingerprints are used; and (column 10, lines 39-43) fingerprint compare can further investigate to identify the specific blocks that are different between two files.
- d. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see item a in section 8 and items a-d in section 9). Keller and Kar are specific arts in determining dynamic dependencies among network application components. Kathrow 's art is specific art on using fingerprint to identify files/software components.

Art Unit: 2144

Kathrow's art and Kar (and Keller)'s art are distinct however related in the generic of the computer management, i.e. network management and file/component management. The prior art of O'Neill as listed in the Remark section of office action dated 05/30/2006 and here below also related software distribution and configuration updates by using fingerprint technique. It is clear that Applicant must be able to submit claim language to distinguish over the prior arts used in the above rejection sections that discloses distinctive features of Applicant's claimed invention. It is suggested that Applicant compare the original specification and claim language with the cited prior art used in the rejection section above or the Remark section below to draw an amended claim set to further the prosecution.

- e. Failure for Applicant to narrow the definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant's intent to broaden claimed invention. Examiner interprets the claim language in a scope parallel to the Applicant in the response. Examiner reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Remarks

15. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. O'Neill (US 6832373 B2) System and method for updating and distributing information

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pas

fss


WILLIAM C. VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100